

# MASTER'S THESIS

Enhancing new teacher educators' network intentionality.

**How network and value awareness are related to the network intentionality of new teacher educators.**

Speelman-Klop, Marry-Loise

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## **Enhancing new teacher educators' network intentionality**

How network and value awareness are related to the network intentionality of new teacher educators

## **Het versterken van de netwerkindentionaliteit van nieuwe lerarenopleiders**

Hoe netwerk- en waardebewustzijn gerelateerd zijn aan de netwerkindentionaliteit van nieuwe lerarenopleiders

M. Speelman-Klop

Master Onderwijswetenschappen  
Open Universiteit

Datum: 05-01-2021  
Begeleiding: Dr. Femke Nijland

Door het inleveren van deze scriptie verklaar ik dat het eigen werk is en dat het vrij is van plagiaat.

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## 1. Title

Enhancing new teacher educators' network intentionality: How network and value awareness are related to the network intentionality of new teacher educators.

## 2. Summary

Networked learning is conducive to the professional development and the onboarding process of new teacher educators, as it provides access to a vast array of knowledge and skills in practice (Cavanagh & Prescott, 2007; De Laat & Schreurs, 2013; Lohman, 2006; Vaessen, Van den Beemt, & De Laat, 2014; Wenger, 1998). As networked learning is not typical teacher behaviour (Nijland, Van Amersfoort, Schreurs, & De Laat, 2018), this type of learning should be stimulated. Networked learning is affected by a professional's network intentionality, i.e. their intention to connect and interact with others, which is influenced by their beliefs about effective networks and networked learning (Moolenaar et al., 2014). Awareness of the characteristics of effective networks and one's own network, i.e. network awareness, and the value of networked learning, i.e. value awareness, could affect these beliefs and thereby enhance network intentionality (based on Borgatti & Cross, 2003; Moolenaar et al., 2014; Nijland et al., 2018; Van Waes, De Maeyer, Moolenaar, Van Petegem, & Van den Bossche, 2018). There is little prior research into the relationship between network and value awareness and network intentionality specifically and, therefore, this research focusses on the following question: *How are network and value awareness related to network intentionality?*

In this research, participants partook in an intervention aiming to enhance both network and value awareness, before and after which they were interviewed with regard to their network intentionality. The intervention consisted of an egocentric network analysis and writing *value-creation stories* (Wenger, Trayner, & De Laat, 2011), in order to enhance participants' awareness of the composition, potential and value of their own networks and networked learning. The interview data indicates that enhancing network and value awareness is insufficient for the enhancement of network intentionality, as beliefs about the social and cultural acceptability of networked learning interfere with insight into the characteristics and value of effective networked learning. These beliefs seem to stem from a fear of rejection, which is enhanced by the novice status of participants, and entail notions about the appropriateness of content, contacts and motives for networked learning. The characteristics of these beliefs about socially and culturally acceptable networked learning and the influence of the novice status of new teacher educators thereupon, as revealed by this research, could be a stepping stone for further research and professional development programmes focussing on the enhancement of network intentionality.

### 3. Introduction

#### 3.1 Situation and research goal

The teaching profession is generally a solitary profession, in which discussing issues with others is not typical teacher behaviour (Nijland et al., 2018). However, consulting one's social network is conducive to professional development, as such networked learning provides access to a vast array of knowledge and skills in practice (Cavanagh & Prescott, 2007; De Laat & Schreurs, 2013; Lieberman & Pointer Mace, 2008; Lohman, 2006; Vaessen et al., 2014; Van Waes et al., 2018; Wenger, 1998). Such access supports both experienced and new teachers, enhancing the integration process of the latter, i.e. their onboarding (Wenger, 1998). Nevertheless, many professional development programmes focus on formal learning activities, such as workshops or conferences, which often do not cover the specific challenges faced by teachers in daily practice (Boud & Hagar, 2012; Clardy, 2018; De Laat & Schreurs, 2013; Nijland et al., 2018; Vaessen et al., 2014). Therefore, a shift from a formal to an informal approach to professional development is necessary: instead of a focus on occasional knowledge acquisition, professional development should be an ongoing process, inherent to daily practice (Boud & Hagar, 2012). Networked learning is such an informal approach, as professionals participate in constructive professional dialogues concerning realistic problems in the search for appropriate and practical solutions (Boud & Hagar, 2012; Cavanagh & Prescott, 2007; De Laat & Schreurs, 2013; Nijland et al., 2018; Tynjälä, 2008; Van Waes et al., 2018; Wenger, 1998). As networked learning is not typical teacher behaviour, this type of learning should be stimulated in order to realise the overall learning potential within educational institutions (Nijland et al., 2018; Van Waes et al., 2018; Wenger, 1998).

Currently, networked learning is not stimulated in the three-year onboarding and professional development programme for new teacher educators at a Dutch university of applied sciences. Teacher educators differ from other teachers due to the constant 'double layer' in their lesson practice: they teach students how to teach, often using modelling as a prominent teaching tool (Boyd, Harris, & Murray, 2011). Nevertheless, the majority of these new teacher educators used to be teachers themselves and as networked learning is not typical teacher behaviour (Nijland et al., 2018), this type of learning should be stimulated in order to support their onboarding process and realise their learning potential (Wenger, 1998). Although prior research did focus on the implications of networked learning for teachers (e.g. Nijland et al., 2018; Van Waes et al., 2018), there is little research focussing specifically on teacher educators. Therefore, the main aim of this research is to gain insight into how new teacher educators' networked learning could be enhanced.

### 3.2 Theoretical framework

In order to gain insight into the potential enhancement of new teacher educators' networked learning, the value and characteristics of effective networked learning are discussed below. In addition, prior research regarding the stimulation of networked learning is explored.

#### 3.2.1. The value and characteristics of effective networked learning

Networked learning enhances teachers', and thus teacher educators', professional development, as it enables them to tap into a rich source of knowledge and skills contained within their networks (Cavanagh & Prescott, 2007; De Laat & Schreurs, 2013; Lohman, 2006; Vaessen et al., 2014). Professionals can utilise their networks in order to gain access to the tacit aspects of knowledge (Wenger, 1998), which is knowledge that cannot be retained within a formal system as it is usually not verbalised or explicitly taught (Wagner & Sternberg, 1985), and which is usually action or activity oriented (Krátká, 2015). Krátká (2015) adds that the tacit knowledge of expert teachers is often personal and involves emotions and values of the individual, an example of which is the perceived importance of 'human' behaviour for a teacher, as found in Krátká's research. Research indicates that there is a correlation between tacit knowledge and job performance (Wagner & Sternberg, 1985), as tacit knowledge, created and maintained by professionals as they encounter and solve problems, is often directly applicable to daily practice (Wenger, 1998). This practical applicability of tacit knowledge also supports newcomers during their initiation into the practice (Wenger, 1998).

Networked learning can yield various types of informational benefits (Cross & Sproull, 2004; Van Waes et al., 2018): first of all, professionals seek solutions and answers to their questions. Secondly, professionals share meta-knowledge, such as referrals to other people or databases. Thirdly, professionals consult others in order to reformulate their initial problem, for the purpose of which they consider various dimensions of the problem together. Fourthly, professionals consult others for purposes of validation, that is, developing confidence about their ideas or plans. Lastly, professionals seek legitimation for their ideas or plans through collegial contact, especially with influential colleagues.

The value created by means of networked learning can be categorised using the *value-creation framework* (Wenger et al., 2011), which distinguishes between five types of value: immediate, potential, applied, realised and reframing value. Immediate value entails that interactions and activities have value in and of themselves, for example when one simply enjoys the conversation or finds recognition of a problem. Potential value refers to interactions that yield knowledge capital, which has the potential to be realised later on. This knowledge capital can take various forms: personal assets (human capital); relationships and connections (social capital); resources (tangible capital); collective intangible assets

(reputational capital); or a transformed ability to learn (learning capital). When knowledge capital is adapted and applied to a specific situation, applied value is created and this can lead to innovations. In fact, prior research indicates a link between networked learning and innovation (Moolenaar et al., 2014). The application of knowledge capital does not necessarily result in improved performance, so the actual improvement of performance is referred to as realised value. Lastly, when learning inspires reconsideration of the definition of success in a particular situation, reframing value is created. This classification underlines the notion of networked learning being an ongoing process (Boud & Hagar, 2012; De Laat & Schreurs, 2013; Vaessen et al., 2014), as interactions do not always directly lead to development or innovation, but their value could be realised over time and may require follow-up contact.

In addition to providing access to a vast array of knowledge, ideas and skills, which could lead to various types of created value (Wenger et al., 2011), an important aspect of networked learning is that the learner has ownership of the learning process (Kools, 2014; Nijland et al., 2018; Vaessen et al., 2014; Wenger, 1998). Learners direct the points of interests and, based on that, they decide whom to approach and include in their network (Vaessen et al., 2014). Such autonomy enhances both motivation and performance (Akkerman, Petter & De Laat, 2008; Nijland et al., 2018; Vaessen et al., 2014; Varga-Atkins et al., 2010). In fact, research indicates that autonomy positively influences the commitment to and the sharing of practices (Hökkä & Eteläpelto, 2014; Vaessen et al., 2014), which in turn could further enhance networked learning. In addition, research suggests that autonomy positively correlates with job satisfaction as well (Federici, 2013). Thus, as networked learning enhances job autonomy due to the inherent self-directedness of learning, it also positively influences job commitment, satisfaction and performance.

The effectiveness of networked learning is affected by the diversity of one's network, as professionals with a diverse network are exposed to a wider array of knowledge and ideas (Cross & Thomas, 2008; Granovetter, 1973; Patariaia, Margaryan, Falconer, Littlejohn, & Falconer, 2014; Van Waes et al., 2018). Although size does not warrant effectiveness because not all ties are equal, high performing teachers typically have a larger network in order to increase the chance of diversity (Van Waes et al., 2018). Network diversity is influenced by five connection characteristics. First of all, Baker-Doyle (2011) distinguishes two types of connections: *intentional professional networks* and *diverse professional allies*. The former pertains to professionals (often direct colleagues) with whom a teacher collaborates and interacts in order to solve problems (Baker-Doyle, 2011). The latter pertains to non-professionals, such as parents and students (Baker-Doyle, 2011). Secondly, the strength of these connections can vary, with research distinguishing between strong and weak ties (Granovetter, 1973; Nijland et al., 2018; Patariaia et al., 2014). Strong and weak



ties are described in terms of the level of investment of time and emotions in relationships and both are important for effective networked learning. Strong ties facilitate the transfer of complex and tacit knowledge, whereas weak ties provide access to new or innovative ideas. Lastly, network diversity is affected by the following three aspects (Pataria et al., 2014): a) physical proximity of ties, i.e. where does the contact work?; b) frequency of contact, i.e. how often does the professional communicate with this contact?; and c) hierarchy, i.e. what is the hierarchical position of the contact compared to the professional's position?

### **3.2.2. Stimulating networked learning**

In many traditional professional development programmes, management decides on various courses and trainings based on what fits their desired outcome (Vaessen et al., 2014). Networked learning, however, is self-directed, often occurs spontaneously and can be invisible to others, which complicates management control on the learning process and outcomes (De Laat & Schreurs, 2013; Vaessen et al., 2014). Therefore, the stimulation of networked learning behaviour is key in the enhancement of networked learning, rather than a focus on the desired outcomes (Vaessen et al., 2014; Wenger, 1998).

Networked learning behaviour is affected by network intentionality, as network intentionality affects the formation of connections (Moolenaar et al., 2014) and connecting with others is essential for networked learning (De Laat & Schreurs, 2013; O'Donnell & Tobbell, 2007; Wenger, 1998). Network intentionality is the extent to which one intends to connect and interact with others, forming their networks by creating, brokering, maintaining and assessing relationships, as reflected in the four dimensions of network intentionality (as defined by Cohen, Klein, Daly, & Finnigan, 2011, in Moolenaar et al., 2014): 1) actively seeking relationships, 2) liking to connect others with each other; 3) the belief in having the right relationships; and 4) assessing relationships. Network intentionality is a relatively new concept, which Moolenaar et al. (2014) studied in relation to teachers' perception of their school's innovative climate. Their findings suggest that teachers with high network intentionality perceive their school's climate as being more innovative, partly because these teachers connect with others more often. This supports the notion that network intentionality affects networked learning behaviour. To date, there is little specific research conducted with regard to the stimulation of network intentionality.

Moolenaar et al. (2014) state that network intentionality is influenced by a professional's beliefs about effective networks and networked learning. These beliefs are affected by professionals' network and value awareness, as the enhancement of such awareness can provide new insights or rectify incorrect notions regarding effective networks and networked learning (based on Borgatti & Cross, 2003; Nijland et al., 2018; Van Waes et

al., 2018). In fact, professionals with high network and value awareness are more likely to have diverse networks and connect with others effectively when they encounter challenges (Borgatti & Cross, 2003; Burt & Ronchi, 2007; Nijland et al., 2018; Van Waes et al., 2018). The first type of awareness, network awareness, entails awareness of the size and diversity of a professional's own network and the effectiveness thereof (Nijland et al., 2018; Van Waes et al., 2018). Such awareness can be enhanced by discussing the properties of effective networks in relation to a professional's own network, in order for them to gain insight into the potential of their personal network (Burt & Ronchi, 2007; Nijland et al., 2018; Pataraia et al., 2014; Van Waes et al., 2018). The second type of awareness, value awareness, refers to the degree to which a professional is aware of the value of both networked learning in general and their own network and networked learning specifically (Nijland et al., 2018; Van Waes et al., 2018). Value awareness can be enhanced by providing professionals insight into the types of value as outlined in the value-creation framework (Wenger et al., 2011). In addition to this theoretical approach, value awareness can be enhanced by focussing on the value of professionals' own networks specifically (Nijland et al., 2018), which could be achieved by reflection on actual value created.

### 3.3 Research question

Networked learning behaviour is affected by a professional's network intentionality (Moolenaar et al., 2014). Network intentionality is affected by a professional's beliefs about effective networks and networked learning (Moolenaar et al., 2014) and these beliefs are affected by network and value awareness (based on Borgatti & Cross, 2003; Nijland et al., 2018; Van Waes et al., 2018). Therefore, in theory, the enhancement of network and value awareness leads to enhanced network intentionality, which in turn leads to enhanced networked learning. Thus, network intentionality potentially functions as a mediator between network and value awareness and networked learning. Figure 1 represents the conceptual model of these relationships. Based on the theory and research discussed in this chapter, both path A (Borgatti & Cross, 2003; Burt & Ronchi, 2007; Nijland et al., 2018; Van Waes et al., 2018) and C (Moolenaar et al., 2014) are valid (Figure 1). Should network intentionality indeed function as a mediator between network and value awareness and networked learning, it would result in path BC.

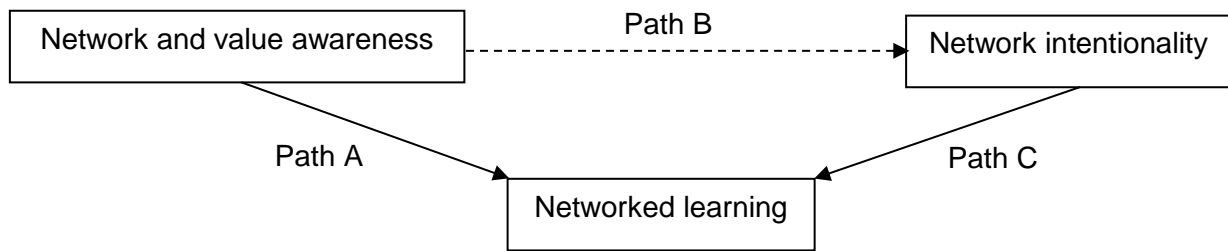


Figure 1. Path diagram enhancement networked learning.

Although prior research, aimed at primary school teachers and university teachers, indicates that networks and networked learning can be influenced by means of an intervention focussing on network and value awareness (Nijland et al., 2018; Van Waes et al., 2018), there is little research into the effects of an awareness intervention on network intentionality and, more specifically, on the network intentionality of new teacher educators. Thus, it is yet unclear to which extent new teacher educators have the intention to cultivate their own networked learning and if an awareness intervention could influence that intentionality. Therefore, this research aims to provide more insight into the relationship between network and value awareness and network intentionality (Figure 1, path B), in order to devise a theory concerning the nature of such a relationship. The main research question is the following: *How are network and value awareness related to network intentionality?*

In order to gain insight into the relationship between network and value awareness and network intentionality, new teacher educators participated in an awareness intervention and were interviewed both before and after the intervention. In order to establish the effectiveness of the intervention, participants were interviewed about their experiences with the intervention and its influence on their beliefs about networked learning, in light of the first subquestion: 1) *How does the awareness intervention affect new teacher educators' beliefs about networked learning?* In addition, participants' network intentionality was explored during the interviews, in order to answer the second subquestion: 2) *How does stimulating network and value awareness influence the network intentionality of new teacher educators?*

## 4. Method

### 4.1 Research design

In order to gain insight into the connection between network and value awareness and network intentionality, a grounded theory approach (Creswell, 2012) has been used for the current study. This study consisted of an awareness intervention and two semi-structured

interviews. The aims of the intervention were the following: a) enhancing network awareness by linking theoretical notions about effective networks to participants' networks; b) enhancing value awareness by linking theoretical notions about the value of networked learning to participants' networks and networked learning. The aim of the interviews was to gain insight into participants' network intentionality and their experiences with the intervention. There were two meetings with each participant, with an interval of at least six weeks for the sake of the intervention. During the first meeting, participants were interviewed with regard to the four dimensions of network intentionality: 1) actively seeking relationships; 2) liking to connect others with each other; 3) the belief in having the right relationships; and 4) assessing relationships. Following this interview, during the same meeting, the first component of the intervention was conducted in order for the participant to gain insight into their own network: an *egocentric network* analysis, i.e. an analysis focussing on the personal network of an individual (Patarraia et al., 2014). During this analysis, the researcher discussed several theoretical notions about effective networks and the value of networked learning with the participants, constantly linking the theory to the actual network of the participant, in order to enhance the participants' awareness of the characteristics, effectiveness and value of their own network. This link to the professional's own network makes the theoretical notions more meaningful to the participants, which is key for the actual acquisition and application of knowledge (Ebbens & Ettehoven, 2013). The following theoretical notions were discussed in relation to the participants' own networks during the network analysis: a) size and diversity (i.e. proximity, frequency and hierarchy (Patarraia et al., 2014); intentional professional networks vs. diverse professional allies (Baker-Doyle, 2011); and strong versus weak ties (Granovetter, 1973; Nijland et al., 2018; Patarraia et al., 2014)); and b) the types of information one can share during networked learning (Cross & Sproull, 2004; Van Waes et al., 2018).

The second component of the intervention consisted of participants reflecting on the actual value created in their personal networks, in order to enhance value awareness. For this purpose, participants were asked to read a short explanation of the five types of value created by means of networked learning, as presented in the value-creation framework (Wenger et al., 2011), and, subsequently, to weekly record a valuable conversation they had had for six weeks, using the value-creation-story format (Wenger et al., 2011) in order to direct their focus to the actual value created. The topic could be anything related to the professional's practice and it was up to the participant to decide what had been valuable enough to include in their value-creation stories. Participants were encouraged to add to their earlier value-creation stories, as not all value is realised immediately, as indicated in the value-creation framework (Wenger et al., 2011), and participants might have gained more insight into the actual value of their conversations over time. Although this type of storytelling

has, so far, primarily been used as a measurement tool in order to establish the type or degree of value created (Nijland et al., 2018; Wenger et al., 2011), relating value-creation stories could, in itself, enhance awareness of the value of one's personal network, as it requires professionals to reflect on their own networked learning and its value.

After reporting their value-creation stories for six weeks, participants were interviewed about their experiences with the intervention and whether or not it affected their perspective on networked learning during a second meeting. In addition, the participants were interviewed again with regard to the dimensions of network intentionality. The data collected during this second part of the interview has been compared to the data collected during the first interview, in order to see if the reports of network intentionality had changed, as this could provide insight into the effects of the awareness intervention.

## 4.2 Participants

The group of participants consisted of 11 new teacher educators for secondary school subjects at a Dutch university of applied sciences, who participated in a three-year onboarding programme and who had started between September 2018 and February 2019. New employees at the Institute for Teacher Education who did not have teaching tasks or who had an appointment size of less than 40 percent of a full-time job were not included in this study, as they did not partake in the onboarding programme. Out of the 28 employees who had started between September 2018 and February 2019, 17 were eligible for this research. All of them were invited to participate and 11 decided to participate. Three teacher educators taught courses within the area of Social Sciences, e.g. Geography and History, including courses within the field of general educational sciences (GES). One teacher educator taught courses within the field of Exact Sciences, e.g. Math, and four within the field of Languages, e.g. English and French. In addition, three teacher educators taught GES courses to either Exact Science students or Language students. There were 7 men and 4 women among these teacher educators (Table 1). For the sake of anonymity, names were replaced with codenames in this research (Table 1) and, due to the small total number of new teacher educators, these will not be linked to the specific courses taught.

Table 1

*Codenames and gender participants*

Participants' codenames	
Male	01DE; 08BA; 17ON; 17ST; 26HA; 26HA2; 26KO
Female	09SC; 20WA; 22BO; 28OU

### 4.3 Materials

In this research, the following materials have been used: a) a semi-structured interview format about network intentionality (interview format A); b) a blank network map; c) an egocentric network analysis format; d) a checklist for the theoretical concepts to be discussed during the network analysis; e) a format for the value-creation stories including a brief explanation of the value-creation framework; and f) a semi-structured interview format including questions about participants' experience with the intervention (interview format B).

Interview format A covers network intentionality and was used before the intervention. The format consisted of main questions and possible follow-up questions (Appendix A). The interview questions were based upon the Network Intentionality scale, developed by Cohen et al. (2011, as described by Moolenaar et al., 2014), in order to ensure their validity. This scale, with a reliability of  $\alpha = 0.84$  (Moolenaar et al., 2014), divides network intentionality into four subscales: 1) actively seeking relationships; 2) liking to connect; 3) belief in having the right relationships; 4) assessing relationships. Considering the fact that there is little known about the network intentionality of new teacher educators specifically and the relatively small number of new teacher educators, the network intentionality has been assessed using a qualitative semi-structured interview format, instead of the quantitative Network Intentionality scale, as this allowed the participants to elaborate on their answers in more detail. The semi-structured format enhanced reliability, as all participants were asked the same main questions. All interviews were conducted in Dutch.

Following the first interview, during the same meeting, the participants' personal network was visualised, in order for the participants to gain insight into their networks. Using a blank egocentric network map (Appendix B), participants were asked to list their valuable contacts and place them on their personal network map according to how close they felt to a particular contact. The proximity to the centre of the egocentric network map visualised the strength of the ties (based on Patariaia et al., 2014).

The following constraints, which are based on the constraints described by Campbell and Lee (1991, as described by Patariaia et al., 2014), were applied in order to make sure that the list of participants' valuable contacts was manageable:

1. Participants were asked to only list contacts who had contributed to their professional development, i.e. the communication had to relate to the professional's practice.
2. Participants were asked to only list contacts with whom they had had valuable communication over the last two months.

In order for participants to gain insight into the diversity of their networks during this egocentric network analysis, they were asked additional questions about each listed contact (Appendix C), which were adapted from the interview format created by Patariaia et al. (2014). Participants' answers were, whenever possible, classified according to the provided

answer options for brevity's sake and incorporated into the network maps by asking the participants to add the keywords to their contacts. After the egocentric network map had been created, the researcher analysed the network together with the participant and incorporated various theoretical concepts in the conversation during this analysis, in order to enhance network and value awareness. In order to ensure that the researcher covered the same topics with all the participants, the researcher used a topic list and kept track of the topics covered (Appendix D).

At the end of the first meeting, the participants received their personal network map and the researcher provided the instructions for the second part of the intervention. They were asked to read a brief explanation of the value-creation framework (Wenger et al., 2011) and to keep track of the valuable conversations they had for six weeks using the value-creation-story format (Wenger et al., 2011). As the participants were Dutch, they received a Dutch translation of the value-creation-story format. Participants received the explanation of the value-creation framework (Appendix E) and enough formats for six value-creation stories (Appendix F) both in hard-copy and via email. Based on the notion that networked learning is an ongoing process (Boud & Hagar, 2012; De Laat & Schreurs, 2013; Vaessen et al., 2014), participants were expected to be able to relate a valuable story every week. However, as this intervention focused on awareness, which implies that participants might not always be aware of value created, participants were allowed to add to a previous story instead of writing a new one. Participants could also choose to write an extra story in another week, should multiple valuable conversations occur.

In light of the first subquestion, regarding the effects of the intervention on participants' perspective on networked learning, participants were asked about their experiences with the intervention, particularly its effect on their beliefs about networked learning, using interview format B (Appendix G) at the start of the second meeting, which took place after the six-week intervention. In addition, interview format A, covering network intentionality, was used again for the second interview as well (Appendix A). This second part of the second interview, in combination with the first interview, served to answer the subquestion regarding the manner in which network and value awareness influence the network intentionality of new teacher educators.

#### **4.4 Procedure**

The eligible new teacher educators received written information about the research project, stating the aims, activities and estimated time investment (Appendix H), and were given time to consider their participation or ask the researcher questions. As the researcher also functioned as the coordinator of the onboarding programme for new teacher educators at this

institution, it was particularly stressed that participation was voluntary and not part of the official programme. Teacher educators who decided to participate were asked to fill in a consent form concerning participation and the audio recording of both interviews for purposes of data-analysis. Participants were informed that the network analysis during the first meeting would not be recorded in any way.

After participants had signed the consent form, the researcher scheduled the first meeting with them. During this meeting, the researcher recorded the interview, as this concerned participants' reports of their network intentionality, but stopped the recording at the beginning of the second part of the meeting, i.e. the network analysis. In addition, the participants received their original visualised network map of which there were no copies, which means that no personal information with regard to the participants' networks was recorded or stored by the researcher, as this was part of the intervention and not of the data collection. In order to ensure validity, networked learning was defined at the start of each interview, as prior conversations revealed that participants had varying definitions of this concept. During the creation of the network maps, it became apparent that the participants' answers to the questions 'how do you know this person' and 'where does this person work' and the questions 'what kind of relation do you have with this person' and 'what is the hierarchical position of this person compared to you' were often similar, for which reason the researcher often combined the answers to these questions into one label in the network map. In addition, the researcher provided the participants with coloured pens and instructed them to use one colour for the same label applicable to various contacts listed. In this manner, the degree of variety of the types of contacts became visually apparent.

At the end of the first meeting, the researcher explained the second part of the intervention: writing a weekly value-creation story for six weeks. After the instruction, participants received a document with the explanation of the value-creation framework and six value-creation-story formats in hard-copy and via email. In order to increase the chance of the participants actually writing a story every week, the researcher sent all participants a weekly reminder via email. They were requested to save the value-creation stories on their own computer or use the hard-copy document and to bring their stories to the second meeting. As this was part of the intervention and not the data collection, the researcher only briefly looked at the value-creation stories at the beginning of the second meeting, in order to determine the extent to which the participants had written the stories and the stories were not collected in any way. Of the 11 participants, one had written four value-creation stories, two had written five stories and seven had written six. One participant had not written down the value-creation stories, but indicated he had reflected mentally on valuable conversations weekly, using the provided format. Seven participants had written the value-creation stories using full sentences and three only used keywords.



The second interview was scheduled about six weeks after the first meeting. In order to ensure that the conversation was meaningful to the participants, they were told to keep the past six weeks in mind when answering the questions about network intentionality this time. As the intervention consisted of an individual track, participants did not go through all the stages of the study at the exact same time. Nevertheless, all data was gathered within five months. See Figure 2 for an overview of the research components.

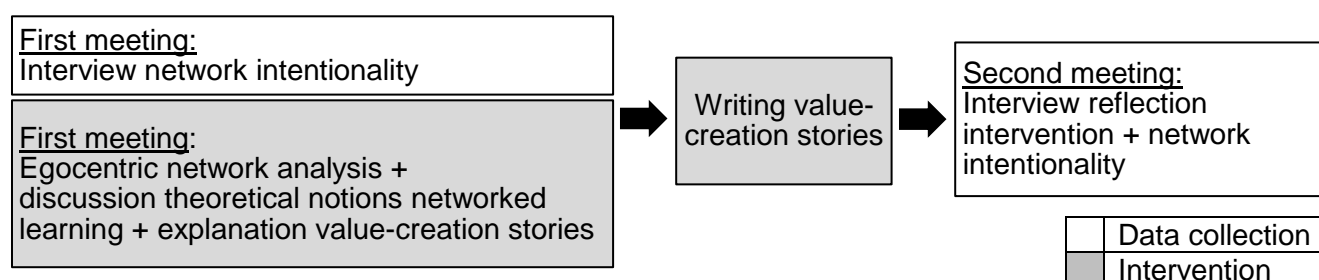


Figure 2. Overview research components.

#### 4.5 Data-analysis

In order to ensure the reliability of the analysis, the interviews were recorded and transcribed. Names mentioned during the interviews were removed in the transcription, in order to ensure anonymity for all contacts mentioned by the participants. All quotes used to illustrate results are translations from the Dutch originals. In order to establish the effectiveness of the intervention, the first part of the second interview has been analysed, categorising the responses as either positive or negative for each component of the intervention and using open and axial coding to categorise more specific opinions with regard to the intervention. The transcription was divided into 79 fragments for purposes of efficient data analysis, the majority of which contain a single code.

In addition, the interviews covering network intentionality have been analysed with regard to participants' network intentionality. The transcription of these interviews was divided into 328 fragments for purposes of efficient data analysis. Due to the complexity of the topic, several fragments contain multiple codes. The network intentionality has been analysed by means of categorising individual remarks as positive or negative towards a particular dimension of network intentionality. When marked positive, the participants' remarks indicate that they support the notion of the dimension or they indicate that they act upon that notion. When marked negative, the participants' remarks indicate either a lack of support for the notion or an explicitly expressed lack of action with regard to the notion of that dimension. Based on the categorization of these individual statements, each dimension of network intentionality was marked positive, negative or undecided. In case of the latter,

participants made both positive and negative remarks. This categorization of both the first interview and second part of the second interview has been compared in order to establish whether or not a difference in network intentionality was apparent after the intervention.

Additionally, open and axial coding has been used to categorise other prevalent opinions or experiences in the interviews covering network intentionality. Thus, statements were first labelled with an 'open code', after which these open codes were categorised using axial coding, in order to uncover overarching themes (Creswell, 2012). The frequency of reference to each prevalent theme between the first and second interview have been compared as well, although only remarkable differences have been elaborated upon. In order to ensure reliability, the coding system was reviewed by an independent researcher and an interrater reliability statistic, Cohen's Kappa (Landis & Koch, 1977), was calculated.

Lastly, selective coding was applied in order to uncover patterns in the network intentionality interviews. In order to establish the validity of these patterns and the main results, a process of *member checking* was used, during which one or more participants are presented with the results and asked if they find the results accurate (Creswell, 2012). For this purpose, the patterns and main results were translated into statements and two participants were asked, during an interview, to indicate if they thought the statements were accurate for their own state of mind in their first year at the institution.

## 5. Results

In this section, the results are discussed. First, the results regarding the interview questions about the effectiveness of the intervention are elaborated upon. Second, the results of the interviews regarding participants' network intentionality are discussed.

### 5.1 Effectiveness of the intervention

In order to establish the effectiveness of the intervention, responses to the questions relating to the experience with the intervention were analysed categorising responses as positive, negative or neutral and using an open and axial coding process to reveal prevalent themes. All participants were positive about their experience with both the network analysis and the value-creation stories, making remarks along the lines of it having been fun, interesting or useful, as illustrated by the responses discussed below. In addition, 3 out of 11 participants explicitly remarked that the value-creation stories were very doable with regard to the required time-investment, as the format complemented their instinctive reflection process. Open and axial coding of participants' descriptions of their experience with the intervention revealed five prevalent categories of response, which are elaborated upon below: 1)

enhanced value awareness; 2) enhanced network awareness; 3) (re)defining networked learning; and 4) adjusting networked learning behaviour.

With regard to value awareness, all participants stated that writing the value-creation stories contributed to their value awareness, particularly due to the description of the types of value in the format: “Well, it has changed something by, those five different types of value, to consciously look at those and what [a conversation] has yielded. And to look at, well, what the differences are,” (20WA). In addition, three participants indicated that the network analysis enhanced value awareness as well.

With regard to network awareness, value-creation stories were mentioned by three participants and the network analysis by all 11 participants as enhancing factors, stating that they have gained insight in their network composition, were stimulated to evaluate their network composition or that they gained insight into the potential for improvement of their network composition: “[...] That there are more people in your network than you initially thought. Because you often only consider your direct colleagues, but there are many more people who can influence [your professional performance],” (28OU).

Five participants indicated that the intervention clarified the definition of networked learning, by revealing the types of connections and value associated with networked learning. In fact, two participants stated that the value-creation stories influenced their perspective on networked learning in general:

I’ve thought about the value of conversations more consciously [during this intervention], in light of those drawings of last time as well, and then I think: ‘I think I can get something out of this [conversation]’. Because beforehand networking had quite a negative connotation for me. I really felt like, you know: those slick guys with 5000 LinkedIn-contacts, who want to be friends with everyone. (26HA)

Lastly, seven participants mentioned changes in behaviour in relation to the network analysis and five in relation to the value creation stories, indicating that the effects of the intervention go beyond enhanced awareness and lead to a change in behaviour. Examples of such behaviour are reflecting more consciously and concretely on the value of conversations, approaching new contacts, specifically contacts outside one’s direct circle of colleagues, or steering conversations in order to maximise value: “[...] I then steer the conversation in such a way that I get an answer to those questions so I can incorporate it into my lessons. I probably wouldn’t have done that before [the intervention],” (17ST).

## 5.2 Network Intentionality

This section includes the analysis of the network intentionality interviews, comparing participants’ network intentionality before and after the intervention: a) the responses are

categorised as a positive, negative or undecided inclination towards each of the four dimensions of network intentionality; b) the themes regarding networked learning revealed by the open and axial coding process are discussed; and c) the patterns revealed by the selective coding process are discussed.

### 5.2.1 Positive, negative or undecided

All participants made positive remarks in both interviews with regard to all four dimensions of network intentionality: (1) actively seeking relationships; 2) liking to connect; 3) the belief in having the right relationships; 4) assessing relationships. Thus, no one had a particularly negative inclination towards any of the dimensions of network intentionality. Nevertheless, several participants made comments which can be marked as negative with regard to one or more of the dimensions as well, resulting in the label ‘undecided’ for that category (Table 2).

Table 2

*Categorization network intentionality as positive (P), negative (N) or undecided (-)*

Dimension	Interview	Participant										
		01DE	08BA	09SC	17ON	17ST	20WA	22BO	26HA	26HA2	26KO	28OU
Actively seeking relationships	1	P	P	P	P	P	P	P	P	-	P	P
	2	P	-	P	P	P	P	P	P	P	P	P
Liking to connect	1	-	-	P	P	P	P	P	-	P	-	-
	2	P	P	P	P	P	P	-	-	P	P	P
Belief in right relationships	1	P	P	P	P	P	P	P	P	P	P	P
	2	P	-	P	P	P	P	P	P	P	P	P
Assessing relationships	1	P	-	P	P	P	P	-	-	-	-	P
	2	P	-	P	P	P	P	-	-	P	-	-

With regard to actively seeking relationships, only two participants seemed undecided (Table 2). Participant 26HA2 stated in the first interview that he does not necessarily seek relationships actively, as this is more of an unconscious process, but that forming new relationships “just simply happens”. Participant 08BA revealed hesitation with regard to this dimension in the second interview, stating that the term networked learning has a negative connotation and it evokes the feeling of using others for personal gain, while a personal relationship should be the focus of the cultivation of new relationships. This same reason was given for the hesitation 08BA expressed in the second interview with regard to the third dimension, belief in having the right relationships, for which he was the only one to seem undecided (Table 2).

The other participants made negative remarks only with regard to liking to connect (dimension two) and assessing relationships (dimension four). With regard to dimension two, five participants during the first and two during the second interview indicated that they think connecting others is valuable, but they do not do this yet because they are fairly new in the organisation. With regard to dimension four, five participants in both interviews stated that the evaluation of the value of contacts is not necessarily a conscious process, that they only actively assess relationships when they have an unsolved question, or that they value the affective relationship more than the potential value a contact could have for their own professional development, on the basis of which they do not necessarily act upon the assessment of a contact's value for their professional development.

Overall, there seems to be little difference in the results of the first and second interviews regarding actively seeking relationships (dimension one) and belief in right relationships (dimension three). Liking to connect (dimension two) seems to be somewhat less problematic in the second interview, as less participants mention the fact that they are new as an inhibition for connecting others. Assessing relationships seems most controversial, as several participants remain undecided regarding this fourth dimension in both interviews.

### 5.2.2 Themes networked learning

The open and axial coding process indicated that participants' networked learning is influenced by practical factors on the one hand and beliefs about networked learning on the other. The practical factors include means, motive and opportunity for networked learning, whereas the beliefs consist of ideas about effective networked learning and the social and cultural acceptability of networked learning (Table 3). Each of these themes is discussed below, focusing on results adding to prior research.

Table 3

#### *Themes networked learning*

Main theme	Subtheme
Practical factors influencing networked learning	Means for networked learning
	Motive for networked learning
	Opportunity for networked learning
Beliefs about networked learning	Effective networked learning
	Socially acceptable networked learning
	Culturally acceptable networked learning

In order to establish the reliability of coding the data using these subthemes, the coding system has been reviewed by an independent educational research specialist. Based on his findings, it became apparent that the codes require additional explanation in order to ensure reliable coding. Therefore, a clarification of the codes was written (Appendix I). An independent second rater was then asked to code a selection of the data (60 fragments), before which she was provided with the clarification and an opportunity to ask the researcher questions about the codes. The interrater reliability, calculated using Cohen's Kappa, was  $Kappa = 0.765$ . This confirms that the level of reliability of this coding system is acceptable, as a Cohen's Kappa of 0.61 to 0.80 indicates substantial agreement (Landis & Koch, 1977). After a discussion, the researcher and second rater reached complete agreement, confirming that the researcher's coding choices are supported by the data.

#### 5.2.2.1 Means for networked learning

Participants indicated that they need to have the means for networked learning, underlining a need for insight into the expertise of others and a need for networked learning skills (Table 4). There does not seem to be a remarkable difference in the frequency with which these aspects were discussed in the first and second interview.

Table 4

*Means for networked learning*

Means	Number of participants mentioning aspect (N=11)		
	Interview 1	Interview 2	Total number of participants
Awareness expertise	7	6	9
Networked learning skills	3	3	5

In line with prior research (Cadima, Ferreira, Monguet, Ojeda, & Fernandez, 2010; Nijland et al., 2018; Ogata & Yano, 1998), the need for insight into the expertise of others was mentioned in both interviews (Table 4), as participants indicated they need to know whom to approach for a particular issue for effective networked learning. Specifically, all of these participants mentioned the lack of such insight as a particular hurdle for networked learning because they are new in the organisation, expecting their networked learning opportunities to increase over time as they will get to know colleagues better: "I think that [I don't connect others much yet] because I'm new and I think that will increase with time, that will happen on its own. I don't know that many people yet, that'll happen later," (26HA).

Five participants also referred to effective networked learning as a skill which must be developed (Table 4). According to participants, networked learning skills include the skill to

connect others with each other, reflective skills for the reflection on networked learning conversations, and the ability to recognise value and steer conversations towards value effectively, for which purpose value-awareness and insight into the required course of development are conducive: “I think that if you don’t know the concept of networked learning that it’s more difficult to link something that comes up in a friendship-based conversation to [networked learning],” (17ST).

#### 5.2.2.2 Motive for networked learning

In line with the notion that people are driven to make use of their network when they feel the need to solve a problem (Nijland et al., 2018), all participants indicated in both interviews that engaging and/or expanding their network is mainly driven by specific questions or issues which they or their current network cannot solve. Only three participants in the first and four in the second interview added that networked learning can also occur spontaneously. Participants mentioned various motives for networked learning, which are listed in Table 5. There does not seem to be a remarkable difference in the frequency with which these motives were discussed between the first and second interview.

Table 5

*Motives for networked learning*

Motives	Number of participants mentioning aspect (N=11)		
	Interview 1	Interview 2	Total number of participants
Professional performance	11	10	11
Onboarding	9	7	11
Innovation	9	8	10
Ambition	5	4	7
Perceived competence	8	10	11
Relationships	9	8	10

All participants indicated in one or both interviews that they mainly focus their networked learning on current concrete and practical issues which have direct influence on their professional performance (Table 5), resulting in solutions, better understanding of complex issues, or alignment of teaching and assessment: “So [connecting with others] is question-driven or based on a necessity for professional development,” (26HA2). Participants also mentioned that networked learning can focus their professional development, using the expertise in their network as a measuring tool for their own professional development in service of their professional performance.

In addition, participants mentioned that they consult their network specifically in light of their onboarding process (Table 5), stating that they need others to acquire all the necessary information, which is in line with prior research stating that networked learning results in a more efficient flow of complex and practical knowledge (Coburn, Mata, & Choi, 2013; Nijland et al., 2018). Several participants added that the written information is often insufficient or even incorrect, requiring newcomers to consult their colleagues in order to figure out the accurate task requirements. In addition, two participants indicated that networked learning helped them to find the boundaries within which they are allowed to exert autonomy: “[...] in order to ask the question to what degree I’m at liberty to make my own choices [regarding lessons], I think that that’s part of being new here and trying to figure out how things work,” (01DE). The onboarding process was also mentioned as a reason for relatively small networks, as the input of direct colleagues was often deemed sufficient for the relatively simple onboarding questions.

In line with prior research (Coburn et al., 2013; Moolenaar et al., 2014; Thurlings, Evers, & Vermeulen, 2014), the majority of participants also indicated that networked learning can lead to inspiration and innovation (Table 5), particularly because others may present a new perspective. This different perspective was specifically mentioned as value of contacts outside one’s office or organisation, in line with the notion that weak ties are particularly useful in this regard (Granovetter, 1973; Patariaia et al., 2014): “[It’s] really useful to look outside the school with certain topics, [...] especially when you’re working on a particular topic and you encounter limitations and the people you’re working with don’t have a lot of experience with it as well,” (01DE). In fact, the improvement and innovation of education was mentioned by most participants as the ultimate objective and motive for networked learning. Nevertheless, ambition for new positions was mentioned by several participants as a motive for networked learning as well (Table 5), although such ambition was most often linked to professional development rather than career advancement.

Networked learning is also particularly mentioned as a useful tool for enhancing one’s perceived competence (Table 5), as defined by Ryan and Deci (2000) and in line with prior research (Wenger et al., 2011), with participants noting that they often consult their network when feeling insecure about certain issues. Participants mentioned that they feel that they are equipped for the job when they have something to offer others and that they feel valued when their ideas are used by others. This notion of reciprocity is also linked to the process of onboarding, as one participant remarked that he felt uncertain whether he possessed all the necessary skills before starting as a teacher educator, but that this fear was quickly appeased when he realised he had something to offer the organisation based on various conversations. In addition to reciprocity, participants indicated that their insecurities are diminished when others recognise the issues they present and that discussing issues with



colleagues can help them feel more secure in their decisions, in line with prior research distinguishing validation as a reason for networked learning (Cross & Sproull, 2004; Van Waes et al., 2018). Participants also indicated that the sheer knowledge that they can enlist colleagues' help makes them feel more confident, which participants note is particularly important for newcomers in the organisation:

When I can't ask my questions, they keep haunting me and that affects how I leave home in the morning to go to work and if I feel like going and if I see opportunities to finish my tasks. [Does it provide security?] Yes, I'm sure it works like that. (26KO)

Lastly, participants noted that networked learning caters to their need for social contact (Table 5), remarking that relationships are essential for one's wellbeing at work, in line with prior research (Ryan & Deci, 2000), or even a prerequisite for professional functioning. In line with prior research linking relationships to a higher job satisfaction (Flap & Völker, 2001), participants indicated that they need relationships in order to gain or maintain passion and enthusiasm for their profession. Participants also mentioned that they particularly value relationships when they are frustrated about issues, indicating that sharing their frustrations brings relief on its own, but can also help change their perspective, thereby diminishing their frustrations and enhancing their professional performance. However, whereas positive relationships have a positive effect, participants indicated that negative relationships negatively affect professional functioning: "It can really bother me if relationship are strung or if it's like a cold war or something, that can really bother me. [...] [Being isolated] would drive me crazy, I'd change professions in that case," (08BA).

### 5.2.2.3 Opportunity for networked learning

The last practical factor mentioned by participants is having the opportunity for networked learning, which is affected by workload and physical proximity (Table 6). Both of these factors are referred to with a similar frequency in both interviews.

Table 6

#### *Aspects influencing opportunities for networked learning*

Aspects opportunity	Number of participants mentioning aspect (N=11)		
	Interview 1	Interview 2	Total number of participants
Workload	6	5	8
Physical proximity	4	3	6

In line with prior research (Patariaia et al., 2014; Vaessen et al., 2014; Van der Klink, Kools, Avissar, White, & Sakata, 2016; Van Waes, Van den Bossche, Moolenaar, De

Maeyer, Van Petegem, 2015), participants underlined the importance of time available for networked learning and the influence of workload thereupon. Moreover, being new to the organisation, one participant indicated that he needs time to process all the new information and has to prioritise topics on which to focus due to the sheer amount of new information presented to him, with urgency and ambition as selective factors. Another participant indicated that he needs time to strengthen the contacts procured upon entering the organisation before looking for new contacts, indicating a limit to the number of relationships that can be cultivated simultaneously. “If I have to choose between strengthening existing contacts and forging new relationships, I prefer the former,” (08BA). Thus, workload does not only pose a potential problem for networked learning in terms of available time, but also in terms of available cognitive space needed to process new contacts and information.

In addition to workload, participants mentioned physical proximity as a factor influencing networked learning opportunities. Three participants refer to physical proximity in relation to spontaneous networked learning in particular, with the coffee machine mentioned as an effective meeting place, in line with the notion that spontaneous learning occurs more often when professionals are in close physical proximity to others (Patariaia et al., 2014). In addition, two participants mention physical proximity in relation to onboarding, stating that they tend to focus on contacts in the same office first, until they have figured out the basics of their new position as teacher educator.

#### *5.2.2.4 Beliefs about effective networked learning*

Table 7 includes three factors which participants believe are conducive to effective networked learning: affective relationships, attitude and the ‘right’ contacts. All three factors are referred to with a similar frequency in both interviews.

Table 7

#### *Requirements for effective networked learning*

Requirements	Number of participants mentioning aspect (N=11)		
	Interview 1	Interview 2	Total number of participants
Affective relationship	9	9	9
Attitude	7	9	9
Right contacts	11	11	11

In line with prior research (Granovetter, 1973; Nijland et al., 2018; Patariaia et al., 2014), the majority of participants (Table 7) indicated that the affective relationship influences the degree to which networked learning opportunities are created or seized, in the sense that

it does not only affect whether or not someone is approached and the frequency of such contact, but it can also affect the depth of the conversation and learning process. Participants indicated that exploring certain topics in depth requires a degree of vulnerability of the parties involved, for which the safety of a positive affective relationship is necessary:

If there is something and you think, right, we're talking about this, but it we should be discussing something else, then there has to be trust between you and [your conversational partner]. Not necessarily for me, but the other is in a vulnerable position and you're going to poke holes into something, you know, so that has to be okay. You don't do this while standing in line for the coffee machine. (08BA)

In addition, participants stated that a friendly nature of a relationship enhances the learning process as contacts are better able to understand each other based on common ground, in line with prior research (Rajagopal, 2013). Moreover, they indicated that they are more prone to accept a friend's or friendly contact's input, which is in line with prior research stating that teachers in particular feel resistant when receiving knowledge from contacts they do not have a relationship with (Davidson & Nowicki, 2012):

If I'm honest then I do think that it's easier when it's someone with whom you have a connection or at least someone you appreciate. It's easier to accept something or to share experiences. If it's not there, then it sometimes misses its mark and it can cause irritation, so to say," (17ST).

Nevertheless, several participants do add that efficiency can be more important than affective relationship when it comes to concrete questions.

In addition to a good affective relationship, participants indicated that their own attitude can enhance or inhibit networked learning as well (Table 7). One has to become accustomed to sharing their questions and ideas and being open to the input of others:

I think that you have to stay active, because at a certain point you'll think that you know everything, but you actually still don't. So I think you have to remain open to change and new ideas, because otherwise you might start teaching on automatic pilot. (22BO)

In addition, participants mention that an active attitude towards networked learning is necessary for realising the learning potential and that one should not be hesitant in approaching others. One participant added that others are more accessible if you approach them with a respectful attitude and do not judge what they do, but simply observe and learn.

Lastly, all participants agree in both interviews that having the 'right' contacts can be conducive to networked learning (Table 7), although the definition of who those contacts are differs among participants. Three aspects influencing the value of a contact were mentioned (Table 8): practical factors, expertise and affective factors. There is no remarkable difference in the frequency of these aspects between the interviews.

Table 8

*Aspects of right contacts*

Aspects of right contacts	Number of participants mentioning aspect (N=11)		
	Interview 1	Interview 2	Total number of participants
Practical factors	5	3	7
Expertise	10	10	10
Affective factors	6	8	9

Several participants mentioned practical factors (Table 8), entailing influence, availability and dependency, as reasons for relationship cultivation: “The project I’m going to play an active role in, I realise that it’s so big and complex, I really have to invest in the relationships with the people involved,” (01DE). Most participants stated that they cultivate relationships if contacts have a particular expertise (Table 8), often linking it to efficiency. In fact, the notion that there is a lot of expertise within the organisation is mentioned as a reason not to look for new contacts outside the organisation, although acquiring more contacts outside the organisation is seen as an option once participants are more settled in the organisation and their new role as teacher educators:

I think [connecting with others outside the organisation] can be valuable, with regard to new perspectives specifically, but I think the context within the organisation is broad enough for me to draw upon. I think that that is partly because I’m still new and because I have a lot of faith in this context and everyone’s input. (20WA)

The expertise of the work field, that is teachers in secondary education, was recognised specifically because teacher educators need to be aware of the latest developments in the field, as their students will have to be equipped to deal with those developments.

Affective factors, consisting of the affective relationship, the contacts’ attitude and homophily, were also mentioned as important when deciding whether or not to invest in a particular relationship (Table 8). In fact, participants indicated that they are less likely to cut ties with a contact who does not add value content-wise if they have a positive affective relationship and that simply having a good affective relationship can make a person a valuable contact: “If I can get along with someone, I’ll keep in touch, even if they don’t add much to my professional development,” (26HA). In addition, the perceived attitude of contacts also affects their perceived value, as participants indicated that the willingness of others to help induces them to be more forthcoming with their questions and struggles. A contact has to be willing to share their expertise and they have to be open to input as well, as one participant states she sometimes refrains from sharing her knowledge and experience out of fear of it being unwanted. In fact, participants indicated that the openness and attitude of others can improve their own attitude towards networked learning as well:

I think it has to do with the kind of collegial environment you end up in and I'm lucky that I ended up in a group of colleagues who are all very open about everything, while if you're not that lucky [...], then you don't learn to express your concerns and to find new contacts and ask them questions. (22BO)

In addition to the affective relationship and contacts' attitude, homophily, the tendency to associate mainly with similar others, influences the choice of contacts (Table 8), which is in line with prior research (Cross and Parker, 2004; Pataraia et al., 2014; Van Waes et al., 2015). This notion is reflected in participants' answers, as they indicated similarities in experience, mindset, passion and formal position affect the perceived accessibility of others. It seems remarkable that homophily was not mentioned at all in the second interview, while it was mentioned six times in the first.

#### 5.2.2.5 Beliefs about socially acceptable networked learning

In addition to beliefs about effective networked learning, participants seem to have certain beliefs about what constitutes socially acceptable networked learning as well, reflected in the notion that one should have proper motives for relationship cultivation. This notion is referred to by all participants in one or both interviews (Table 9).

Table 9

#### *Socially acceptable networked learning*

Socially acceptable networked learning	Number of participants mentioning aspect (N=11)		
	Interview 1	Interview 2	Total number of participants
Proper motive for relationship cultivation	9	9	11

The idea of ending a relationship because of a lack of value is generally frowned upon and participants indicated that they are more likely to consider a contacts' value than the lack thereof: "I would approach that person less frequently, but I wouldn't end the relationship. I'm someone who wants to give people many chances," (17ON). Professional development or the improvement of education is the driving force for making connections, rather than improving the composition of the network itself. In fact, networking for the sake of networking is perceived rather negatively by participants, indicating that the term 'networking' and specifically the deliberate networked learning as network intentionality entails has a negative connotation to them as it suggest a degree of "calculatedness" (22BO) when meeting new contacts. With the exception of three, all participants indicated that the evaluation process of the value of contacts is an unconscious process, rather than a conscious one, in which expertise and the affective relationship is key. Evaluation occurs

naturally, rather than by use of formal reflection, as it is inefficient to approach a contact twice when they proved to have insufficient expertise concerning a specific topic.

Participants also indicated that it sounds quite negative and opportunistic when they say they seek new contacts based on their potential value, rather than personal connection or interest, feeling the need to excuse themselves when they note that they are not always focused on the affective relationship first:

[Do you link networked learning to the idea of using others?] Yes, that is the case. [Negatively?] Well, negatively, everyone has to decide that for themselves, but the idea that you advance using others, while actually.. I don't know, actually yes [I do perceive it in a negative light]. [...] Yes that [a hidden agenda] is it exactly, like 'I want something from you' [...] a bit like a leech or something. That sounds exaggerated, but it's kind of true. [...] there is enough that you do naturally without the idea of 'are you valuable enough to be my friend?' (08BA)

Interestingly, LinkedIn seems to have a special status in this regard, as several participants stated that they do feel comfortable adding people with potential value for their career on LinkedIn: "I am on LinkedIn, however, I'm really somewhat of a LinkedIn slut: I won't search actively, but I'll go through the list like 'pampampam, there we go'," (08BA). In a sense, they stated that that is in line with the nature of LinkedIn, so one does not have to feel bad about 'using' someone without cultivating a good personal relationship first.

#### 5.2.2.6 Beliefs about culturally acceptable networked learning

The interview data also revealed beliefs about culturally acceptable networked learning, with participants indicating that one should connect to the appropriate contacts and only ask or share appropriate content. Thus, one is not free to ask or share everything with everyone. These notions were referred to with similar frequency in both interviews (Table 10).

Table 10

*Culturally acceptable networked learning*

Culturally acceptable networked learning	Number of participants mentioning aspect (N=11)		
	Interview 1	Interview 2	Total number of participants
Appropriate contacts	3	2	4
Appropriate content	9	7	10

Four participants (Table 10) suggest that contacts have to be selected carefully, as one cannot simply ask anyone. First of all, participants indicated that they feel more hesitant

approaching managers or very experienced colleagues, as they still have to find out what they can and cannot ask managers:

It has to do with your position as well, you know you're more on the same level with other new teacher educators and there are also people who've been working here for 30 years, so to speak, or managers or something. I still feel some distance then [...] You're trying to see which way the wind blows with managers, [...] trying to figure out what's customary here. (08BA)

In addition, participants expressed concern about approaching colleagues who are very busy, suggesting that one should only approach contacts who have time available, in order for you not to add to others' workload: "When I see someone is busy and I expect that it's not a good time for asking questions, I don't ask them," (26KO). Lastly, participants stressed the importance of finding out which contacts have the necessary expertise before approaching them, not just for the sake of efficiency, but also in order to properly appreciate others' expertise: "It is nice if the talents and skills of professionals in a professional organisation are recognised and that questions meant for them actually reach them," (01DE).

Although only few participants referred to notions of appropriate contacts, the majority mentioned the appropriateness of content (Table 10). First of all, participants expressed concern about asking 'stupid' questions, particularly with regard to content questions (i.e. questions related to the course content they are teaching). This seems to be tied to the idea that one should only ask questions if they cannot find the answer themselves, as participants indicated that they feel they should have done everything to find content-related information themselves before asking others:

I do not feel hesitant to ask about small stuff, but with some things... I feel hesitant to ask about content-related things. I do notice that I have taught at high school level for many years, so I have some knowledge gaps, for which I do not go to colleagues until I have tried to figure it out myself. I mean, I don't want to ask stupid questions. So I am more reserved in those cases. I want to make sure I'm well prepared first. [Is that because you feel like you should know the answers or that they might think you should?] Mainly the latter, I think... I am constantly considering what I should know or what I think others think I should know, which might not be the case at all, but sometimes it is. [...] In this case it also somewhat depends on the type of relationship I have with someone. I ask people I get along with questions more easily. (01DE)

Participants mentioned that they think their network is less essential with regard to course content questions, indicating that one could be a great subject teacher without networked learning, but need others in order to become a professional teacher educator, as this requires more than sheer knowledge.

The fear of asking 'stupid' questions seems to be abated when colleagues share a particular question or concern: "Then I realise that it's not just me, so then I'm not ashamed to ask multiple times," (01DE). Moreover, participants indicated that they express their thoughts more freely to a friendly and familiar contact, as they are less fearful of judgement or rejection, e.g. being thought of as a "know-all" (20WA) or incompetent. Participants mentioned that purely professional relationships are not approached until they have tried to find answers on their own first. When referring to purely professional contacts, the word 'mask' was used by two participants, indicating that a professional attitude includes a degree of reticence in what is shared with colleagues: "When a relationship is stronger than it's easier to function, at least for me, because you don't... you can be more yourself, you don't have to put on a mask [...] I can discuss [more] things and express my frustration," (08BA).

### **5.2.3 Patterns**

Considering all results concerning network intentionality, four patterns appear: a) onboarding both enhances and inhibits networked learning; b) reciprocity is conducive to positive networked learning relationships; c) potential value is a less acceptable motive than other types of value; and d) a fear of rejection influences networked learning decisions. For the purpose of assessing the validity of the patterns and main results, 17 statements were formulated (Appendix J) and presented to two participants. One participant confirmed all 17 statements and the other confirmed 16, indicating that the patterns and main results are valid. One of the two participants specified that the fear of rejection was specifically true for his first year of employment, but less so for his third (current) year.

#### *5.2.3.1 Onboarding*

The first pattern found is that onboarding both enhances and inhibits networked learning. On the one hand, onboarding is mentioned as a reason for connecting to others, as participants state they need colleagues in order to function successfully. On the other hand, the fact that participants are new in the organisation is perceived as an inhibiting factor for networked learning, for the following three reasons: a) participants simply do not know many colleagues yet, so they do not always know whom to approach or whom to connect to others; b) participants' cognitive space is quickly filled with all the information and contacts acquired upon first entering the organisation, leaving less mental space for the acquisition and cultivation of new relationships and the exploration of more in-depth issues for which new contacts could be necessary; and c) participants seem to have an enhanced fear of rejection as they are unsure of their own position and the organisational culture.



### *5.2.3.2 Reciprocity*

The data indicates that reciprocity is conducive to the cultivation of positive relationships, as a lack of reciprocity is seen in a negative light: using others or being used without giving or gaining anything is generally perceived as socially unacceptable. LinkedIn is the one exception, as reciprocity is not necessary due to the nature of the platform. Reciprocity can be accomplished by giving or gaining expertise or influence as well as affective factors, as a good affective relationship is seen as added value in its own right. In fact, the general conviction seems to be that one can use contacts or be used, as long as there is a genuine degree of personal interest: “there has to be a degree of personal interest, you know?” (26HA2). The importance of positive affective relationships is in line with prior research underlining the need for a feeling of community as a basis for reciprocity in networked learning (Van den Beemt, Ketelaar, Diepstraten, & De Laat, 2018). Reciprocity was said to enhance one’s perceived competence as well, underlining the value attributed to this notion by participants, indicating they only feel equipped for their position if they add value.

Interestingly, the desired type (expertise, influence or affective value) and degree of reciprocity differs based on the type of relationship. Several participants indicated that expertise is more important when the affective relationship is weak, “keeping score” (08BA) in that case, and that they are more likely to refrain from contact if a contact does not add value and the relationship is weak rather than strong: “If I approach someone with a particular question and they don’t really provide me with a useful answer, I’ll think twice before I approach them again, especially if it’s a purely professional relationship with whom I don’t have a personal connection,” (17ST). Moreover, efficiency seems to trump affective factors when the relationship is weak, but not necessarily when it is strong. In addition, some participants indicated that they think everyone in the organisation can be valuable, resulting in the affective relationship being the deciding factor with regard to the selection of valuable contacts. Moreover, participants add that negative affective experiences with a contact can also be a reason not to reach out twice, even if they do have expertise.

### *5.2.3.3 Potential value*

The data indicates that the type of value sought after determines the social acceptability of connecting to specific others and the level of necessary reciprocity. Participants referred to immediate, applied, realised and reframing value as motives for networked learning, indicating that they are looking for conversations they can enjoy, knowledge or skills they can apply so their professional performance improves and conversations by means of which they can redefine success. This latter type of conversations was particularly referred to in relation to student problems, with participants indicating that the reframing of success enhances their

perceived competence, as they realise they are not expected to solve every issue. Potential value as a motive for networked learning seems somewhat problematic however. Although participants recognised potential value, in the form of finding contacts who may become valuable in the future, as value created by networked learning, participants also indicated that it sounds quite negative and opportunistic when they say they actively seek new contacts based on their potential value, with conscious and deliberate behaviour being less acceptable than unconscious networked learning driven by practice itself. In fact, there seems to be somewhat of a distinction between deliberately searching for new contacts because of a need for information or answers to pressing questions with a current relevancy or because someone might become valuable in the future, with the latter being perceived in a more negative light. Potential value seems to require a degree of “calculatedness” (22BO) when it constitutes one’s motive for connecting to others, therefore posing a problem regarding socially acceptable networked learning. This is reflected in the negative connotation some participants had regarding networked learning, indicating that networking for the sake of networking is socially less acceptable and that they do not “hunt” (26HA) for new contacts without a specific question.

#### *5.2.3.4 Fear of rejection*

Lastly, the data reveals a distinct fear of being rejected, as participants weigh their words and choose their questions carefully, out of fear of asking unnecessary questions. In fact, both knowing too much, being perceived as a “know-all” (20WA), and too little, being perceived as “stupid” (01DE), poses an issue and potential for judgement or exclusion. For example, several participants remarked that the recognition of issues is a valuable outcome of conversations, as this proves the validity of the question: if it is not ‘just them’, participants can comfortably ask the question. The fact that participants are new in the organisation seems to enhance the fear of rejection, with participants remarking that they still have to figure out what they can ask whom, as they are unsure of their position in the organisation and the organisational culture. One participant added that he sometimes feels particularly hesitant discussing sensitive topics because he is new in the team. Nevertheless, the fear of rejection seems to apply to more experienced teachers as well, with one participant noting that others are more open and accessible if you approach them with a respectful and non-judgmental attitude. Strong affective relationships seem to abate this fear of rejection, providing more safety and encouraging participants to ask their questions.

## 6. Discussion

According to participants, the intervention was successful in the enhancement of network and value awareness. In fact, participants indicated that the intervention affected their networked learning behaviour as well, in line with the notion that network and value awareness can lead to enhanced networked learning (Figure 3, Path A; Borgatti & Cross, 2003; Burt & Ronchi, 2007; Nijland et al., 2018; Van Waes et al., 2018). Participants stated that their networked learning had become more conscious and intentional and, therefore, more effective. Participants had a more positive perspective on networked learning and were more prone to strive for effective networked learning, either because they gained new insight into the value of networked learning and their own network in particular, or because the awareness of potential networked learning opportunities and value was enhanced, thus answering the first subquestion: *How does the awareness intervention affect new teacher educators' beliefs about networked learning?* Looking at network intentionality, both interviews generally reveal a positive approach towards actively seeking new relationships (dimension 1), although only if one has a particular and pressing question, liking to connect (dimension 2), although onboarding can inhibit this, and having the right relationships (dimension 3), but less so with regard to deliberately assessing relationships (dimension 4). This latter dimension evoked mixed reactions in both interviews, revealing a negative association with enlisting others for the purpose of personal professional development only.

Based on the categorisation of responses and the frequency of the prevalent themes in both interviews, network intentionality itself does not seem to have been affected by the intervention. The one exception to this conclusion is that homophily seems to have been less of an issue during the second interview compared to the first, which could be an indication that participants were more open to connecting to various others after the awareness intervention. Although the results do not explicitly confirm this, this would be in line with prior research (Van Waes et al., 2018). Nevertheless, despite the reported enhanced networked learning due to the increased network and value awareness, this study cannot confirm the validity of path BC (Figure 3), that is, the influence of network and value awareness on networked learning via network intentionality. Thus, the answer to the subquestion *How does stimulating network and value awareness influence the network intentionality of new teacher educators?* is that the stimulation of such awareness in itself is insufficient for the enhancement of network intentionality of new teacher educators, despite the notion based on prior research that network intentionality can be affected by enhanced network and value awareness (based on Borgatti & Cross, 2003; Burt & Ronchi, 2007; Moolenaar et al., 2014; Nijland et al., 2018; Van Waes et al., 2018).

The lack of change in the network intentionality of participants, despite enhanced network and value awareness, could be explained by interference of the social and cultural

beliefs apparent in the interviews. Fuelled by a fear of rejection, participants feel they are not free to ask anyone anything, as they are concerned with overstepping social and cultural boundaries. Knowing too much or too little, asking the wrong person, or not abiding to social standards and being perceived as a “leech” (08BA) are concerns which affect participants’ networked learning choices. The novice status in the organisation enhances the participants’ trepidation, as they are unsure about the organisational culture and their own position in the organisation. Therefore, the answer to the main question, *How are network and value awareness related to network intentionality?*, is that beliefs about the social and cultural acceptability of networked learning interfere with the influence of network and value awareness on the network intentionality of novice teacher educators (Figure 3).

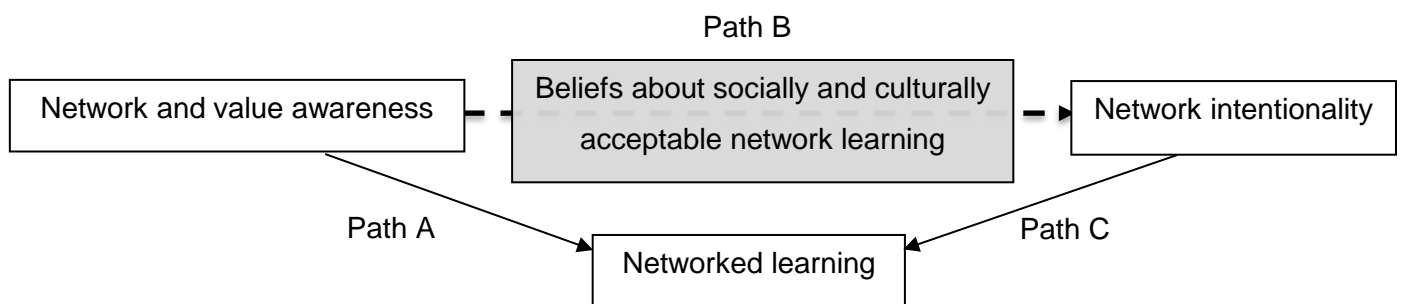


Figure 3. Path diagram enhancement networked learning.

Although the results do not suggest enhanced network intentionality, the use of the broad categorisation regarding network intentionality as positive, negative or undecided cannot reveal more subtle changes in the network intentionality of participants, which may have been present. Further research is necessary in order to gain more insight into the relationship between network and value awareness and network intentionality, for example by using the Network Intentionality Scale (Cohen et al., 2011, in Moolenaar et al., 2014) in order to measure smaller changes in network intentionality. Moreover, as there is little difference in the number of participants mentioning onboarding as a motive between the first and the second interview, the onboarding process does not seem to have been more complete at the end of the research process, which indicates that either the intervention did not affect the onboarding process or these changes are not yet apparent in the results due to the short time-span of the research. Therefore, longitudinal research is required in order to gain insight into the effects an awareness intervention on network intentionality over time, particularly with the onboarding process in mind.

Considering the general mantra in education that there are no stupid questions, the distinct fear of rejection due to a lack of expertise is quite remarkable. This fear could be specifically relevant for teachers, as asking others’ for help is not the norm for teachers

(Coburn, Mata & Choi, 2013) and their profession is traditionally marked by social isolation (Lortie, 1975; Ostovar-Nameghi & Sheikahmadi, 2016). Moreover, prior research indicates that teacher isolation functions as protection from judgement (Snow-Gerono, 2005), mirroring the fear of rejection found in this research. As teachers are usually on top of the knowledge chain when teaching, they might feel they always should be. The novice teacher educators seem to feel the need to defend their new position in the organisation by displaying expertise, focusing on reciprocity for the validation of their new professional identity. People are more likely to exchange knowledge on reciprocal basis when they perceive knowledge as property of the individual rather than a public good (Van den Beemt et al., 2018), which raises the question if the teacher educators in this research adhered to the former notion, enhancing fears of personal rejection based on a lack of expertise.

In line with prior research stating that beliefs influence attitude and thereby behaviour (Azjen, 2012), an intervention combining network and value awareness and attention for beliefs about socially and culturally acceptable networked learning could prove to be most effective in enhancing the network intentionality and networked learning of new teacher educators. The manner in which inhibiting social and cultural beliefs should be addressed depends on whether they are actually part of the organisational tacit knowledge or are only adhered to by novices. In the latter case, novices need to gain insight into the actual social and cultural norms within the organisation, in order to diminish trepidation caused by their beliefs. The notion that the novice status of new teacher educators influences their social and cultural beliefs is underlined by the fact that a participant partaking in the validation process indicated that the fear of rejection was particularly true for his first year of employment, but less so for his third. Moreover, these beliefs have not been apparent in prior networked learning research. Nevertheless, it is also possible that knowledge of such behavioural expectations was already part of the tacit knowledge of participants in prior research, whereas these novice teacher educators are still very much aware and unsure of these unwritten rules, making them more prone to mentioning it. In fact, prior research indicates that the tacit knowledge of expert teachers is personal, emotional and reflects one's behavioural values (Krátka, 2015), which is in line with the social and cultural beliefs found in this research, suggesting that these beliefs can in fact be part of teachers' tacit knowledge.

Should the social and cultural beliefs indeed be part of the general tacit knowledge within the organisation, then novice teacher educators are posed with a circular problem, as tacit knowledge, in the form of understanding the social and cultural behavioural expectations regarding networked learning, is required in order to connect to the community and gain access to the pool of tacit knowledge within the organisation. Perhaps this circular problem can be circumvented by providing new teacher educators with the necessary social and cultural tacit knowledge in an onboarding programme. Prior research indicates, however, that

the diffusion of tacit knowledge can be problematic, as it is difficult to make such knowledge explicit (Mahroeian & Forozia, 2012). Nevertheless, Tsoukas (2003) argues that tacit knowledge can be shared when professionals describe their practice using instructive language, without operationalising tacit knowledge. Perhaps the acquisition of the necessary social and cultural tacit knowledge can be enhanced by inviting expert teacher educators to discuss their own networked learning experiences with new teacher educators using instructive language, without making the social and cultural rules explicit.

Further research is required in order to establish which social and cultural beliefs inhibiting networked learning are actually part of the general organisational culture, in order to determine if an intervention aiming to alter such beliefs should focus on novices or the entire organisation. Although this takes time, prior research indicates that professional development programmes can affect organisational cultures by changing perspectives and attitude (Hochberg et al., 2012). As perspectives on networked learning are influenced by network and value awareness (Borgatti & Cross, 2003; Nijland et al., 2018; Van Waes et al., 2018), the enhancement of such awareness of both expert and novice teacher educators might eventually change the organisational culture regarding networked learning. In addition, prior research underlines the importance of leadership for the purpose of organisational cultural change (Leong & Anderson, 2012; Pater, 2013), indicating a need for the active involvement of management in order to enhance a positive perspective on networked learning and change the interfering social and cultural beliefs within the organisation.

Although this research provides some insight into the beliefs about socially and culturally acceptable networked learning the novice teacher educators at this particular Dutch university of applied sciences adhered to, further research is required in order to confirm the specific characteristics and scope of these beliefs, with the aim of developing an intervention diminishing the negative effects of such beliefs on networked learning. The main value of this research lies in the improved understanding of the beliefs influencing network intentionality and networked learning, with the addition of social and cultural beliefs to beliefs about effective networks and networked learning. Moreover, this research enhances understanding of the influence of the novice status of new teacher educators on networked learning. These results have practical applicability for the design of interventions focussing on enhancing networked learning, particularly in light of onboarding. In addition, they could be used as a stepping stone for research focussed on gaining further insight into the relationship between network and value awareness and network intentionality and the influence of beliefs about networked learning.

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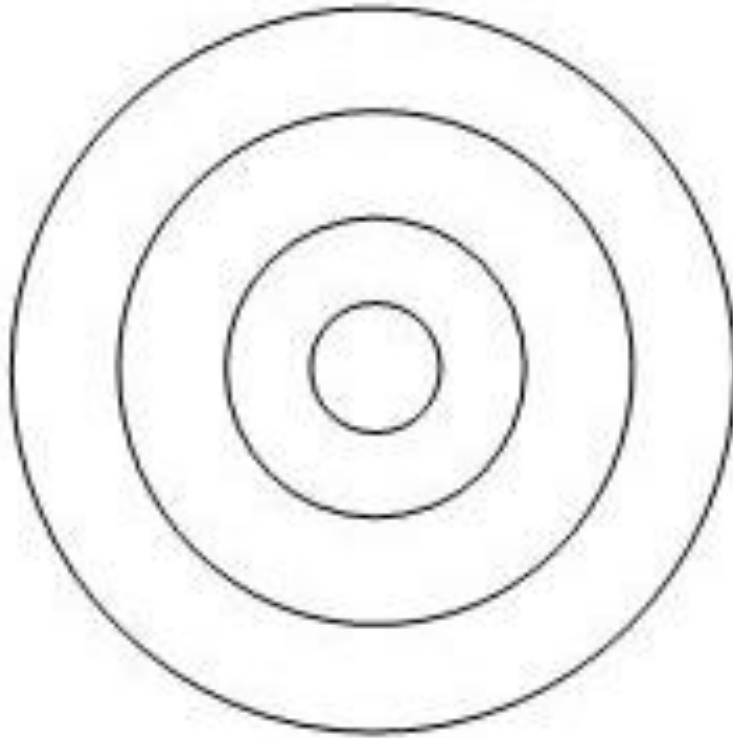
**Appendix A**  
**Interview Format A (Network Intentionality)**

Hoofdvraag	Follow-up vragen
Denk je dat het belangrijk is om actief nieuwe contacten te zoeken binnen de organisatie?	<ul style="list-style-type: none"> <li>- Waarom is dat belangrijk?</li> <li>- Doe je dit zelf ook?</li> <li>- Zijn dit vriendschappen of professionele relaties?</li> <li>- Hoe beïnvloedt dit de kwaliteit van jouw werk?</li> </ul>
Hoofdvragen	Follow-up vragen
In welke mate verbind jij anderen (met elkaar)?	<ul style="list-style-type: none"> <li>- Heb je er plezier in dit te doen?</li> <li>- Wat heb jij anderen te bieden als professional?</li> </ul>
Heeft het hebben van de 'juiste' relaties invloed op jouw professionele functioneren?	<ul style="list-style-type: none"> <li>- Beïnvloed het jouw welzijn in het algemeen?</li> <li>- Hoe belangrijk is jouw netwerk voor jou als professional?</li> <li>- Hoe beïnvloedt jouw persoonlijk netwerk je werk in de praktijk?</li> <li>- Welke rol speelt jouw netwerk bij jouw dagelijks probleemoplossen?</li> <li>- Bij wat voor soort problemen doe jij een beroep op je netwerk?</li> <li>- Welke effect heeft dit, of kan dit hebben, op jouw prestaties of de prestaties van jouw studenten?</li> </ul>
In welke mate geef jij actief vorm aan jouw netwerk?	<ul style="list-style-type: none"> <li>- Evalueer je wel eens de aard en waarde van jouw relaties binnen of buiten de hogeschool?</li> <li>- Denk je wel eens na over wie een waardevol contact zou zijn en wie niet?</li> </ul>

## **Appendix B**

### **Blank Egocentric Network Map**

(Altissimo, 2016; Kolleck & Bormann, 2014)



## Appendix C

### Egocentric Network Analysis

#### Waardevolle contacten identificeren

Met wie heb je in de afgelopen twee maanden een waardevol gesprek gehad dat heeft bijgedragen aan jouw professionele ontwikkeling?

Plaats deze persoon ergens op jouw netwerkaart op basis van de sterkte van jullie relatie: hoe sterker de relatie, hoe dichterbij je die persoon bij het midden van de kaart zet.

Aanvullende vragen per contact		Antwoordopties
Hoe ken je deze persoon?	<ul style="list-style-type: none"> <li>○ Collega op dezelfde afdeling</li> <li>○ Collega in dezelfde organisatie, andere afdeling</li> <li>○ Collega in een andere organisatie</li> </ul>	<ul style="list-style-type: none"> <li>○ Familielid of vriend</li> <li>○ Student</li> <li>○ Anders</li> </ul>
In welke relatie staat deze persoon tot jou?	<ul style="list-style-type: none"> <li>○ Collega</li> <li>○ Ondergeschikte</li> <li>○ Leidinggevende</li> <li>○ Familielid</li> </ul>	<ul style="list-style-type: none"> <li>○ Mentor</li> <li>○ Student</li> <li>○ Anders</li> </ul>
Waar werkt deze persoon?	<ul style="list-style-type: none"> <li>○ In hetzelfde kantoor</li> <li>○ Op dezelfde verdieping</li> <li>○ Op een andere verdieping</li> <li>○ In een ander gebouw</li> </ul>	<ul style="list-style-type: none"> <li>○ In dezelfde stad</li> <li>○ In een andere stad</li> <li>○ In een ander land</li> <li>○ Anders</li> </ul>
Hoe vaak communiceer jij met deze persoon over jouw lespraktijk?	<ul style="list-style-type: none"> <li>○ Zelden (één keer per jaar of minder)</li> <li>○ Soms (meerdere keren per jaar)</li> <li>○ Regelmatig (één keer per maand)</li> </ul>	<ul style="list-style-type: none"> <li>○ Vaak (elke week)</li> <li>○ Zeer vaak (meerdere keren per dag)</li> <li>○ Anders</li> </ul>
Wat is de (hiërarchische) positie van deze persoon in vergelijking met die van jou?	<ul style="list-style-type: none"> <li>○ Hoger</li> <li>○ Gelijk</li> <li>○ Lager</li> </ul>	<ul style="list-style-type: none"> <li>○ Weet ik niet</li> <li>○ Niet van toepassing</li> <li>○ Anders</li> </ul>

**Appendix D**  
**Checklist Theoretical Notions Effective Networked Learning**

Main topic	Sub-topic	Covered?
Diversity	Importance of diversity in general	
Aspects of diversity	Proximity	
	Hierarchy	
	Frequency	
	Types of ties: intentional professional networks vs. diverse professional allies and the value of both (Baker-Doyle, 2011)	Types: _____ Value: _____
	Strength of ties, i.e. strong and weak ties and the value of both (Granovetter, 1973; Nijland et al., 2018; Patariaia et al., 2014)	Strength: _____ Value: _____
Size	Chance of diversity increases with size (Van Waes et al., 2018), but size itself is not necessarily important.	
Value:	a) Solutions and answers to questions	a)
The types of information one can share during networked learning (Cross & Sproull, 2004; Van Waes et al., 2018)	b) Meta-knowledge, such as referrals to other people or databases	b)
	c) Reformulation of initial problem	c)
	d) Validation, that is, developing confidence about ideas or plans	d)
	e) Legitimation for ideas or plans	e)

## Appendix E

### Explanation Value-Creation Framework

(Nijland & Van Amersfoort, 2012).

#### Waardecreatieverhalen

De waarde die deelname aan een netwerk heeft gehad voor een leraar, de leerlingen en de school kan achterhaald worden door er op een gestructureerde manier naar te kijken. Een waardecreatieverhaal kan worden verteld door iedereen die bezig is met netwerkleren. In zo'n verhaal gaan we ervan uit dat deelname aan een netwerk vijf verschillende soorten waarden kan hebben:

1. Productieve activiteiten
2. Nuttige bronnen
3. Veranderde praktijk
4. Zichtbare opbrengsten
5. Nieuwe inzichten

De vijf soorten waarden die we hier beschrijven, zijn nauw met elkaar verbonden. Dit betekent overigens niet dat de ene soort waarde belangrijker is dan de andere of dat het een per se tot het ander moet leiden.

Productieve activiteiten	Met 'productieve activiteiten' benoemen we de waarde die zulke activiteiten van zichzelf al hebben en waar je gelijk al wat mee kunt. Een gesprek met collega's kan op zichzelf al waardevol zijn en alleen al de mogelijkheid je eigen vragen op tafel te kunnen leggen, kan erg prettig zijn. Je ervaart een dergelijk gesprek bijvoorbeeld als leuk, gezellig of productief.
Nuttige bronnen	Onder 'nuttige bronnen' verstaan we de kennis, materialen ideeën en contacten die je al lerende opdoet. Die bronnen zijn waardevol, omdat ze later weer van pas kunnen komen om je werk te verbeteren of om een bepaald doel te bereiken. Het opdoen van nieuwe contacten en een lesplan dat een leraar van een collega krijgt, zijn voorbeelden van nuttige bronnen.
Veranderde praktijk	Als een leraar zo'n lesplan aanpast aan de behoefte van zijn of haar eigen studenten, ontstaat er een 'veranderde praktijk'. Om de waarde van die veranderde praktijk te zien, moet je kijken naar de manier waarop de praktijk is veranderd door het inzetten van die nuttige bronnen.
Zichtbare opbrengsten	Een veranderde praktijk betekent echter nog niet dat er ook zichtbare opbrengsten zijn gerealiseerd. Van 'zichtbare opbrengsten' is sprake als die veranderde praktijk bijdraagt aan verbeterde prestaties van de leraar, de leerlingen, het team of de organisatie.
Nieuwe inzichten	Uiteindelijk kan informeel leren ertoe leiden dat je ook anders tegen dingen aan gaat kijken en op die manier 'nieuwe inzichten' opdoet.



## Appendix F

### Value-Creation-Story Format

Adapted from Nijland (2018) and Nijland and Van Amersfoort (2012).

Type waarde	Richtvragen	Persoonlijk waardecreatie verhaal
Waardevol gesprek	Beschrijf het gesprek of het contact dat jij als waardevol hebt ervaren.	
Productieve activiteiten	Hoe heb je het gesprek ervaren? <ul style="list-style-type: none"> <li>- Vond je het gesprek leuk of boeiend?</li> <li>- Was het gesprek nuttig?</li> <li>- Ervaarde je herkenning of erkenning?</li> <li>- Heeft het gesprek effect gehad op je gevoel van competentie?</li> <li>- Heeft het gesprek effect gehad op je gevoel van verbondenheid met anderen?</li> </ul>	
Nuttige bronnen	Wat heb je uit het gesprek meegenomen? <ul style="list-style-type: none"> <li>- Nuttige tips</li> <li>- Informatie</li> <li>- Vertrouwen</li> <li>- Documenten</li> <li>- Inspiratie</li> <li>- Tools</li> <li>- Inzicht</li> </ul>	
Veranderde praktijk	Ben je hierdoor dingen anders gaan doen in je praktijk? <ul style="list-style-type: none"> <li>- Gebruik van tools</li> <li>- Toepassing advies</li> <li>- Inzetten sociale contacten</li> <li>- Vernieuwingen</li> </ul>	
Zichtbare opbrengsten	Hoe heeft dat de prestaties van jou, je studenten of de school beïnvloedt? <ul style="list-style-type: none"> <li>- Persoonlijke prestaties</li> <li>- Studentprestaties</li> <li>- Algemene prestaties</li> <li>- Kennisproducten als prestatie</li> </ul>	

Type waarde	Richtvragen	Persoonlijk waardecreatie verhaal
Nieuwe inzichten	<p>Ben je anders tegen dingen aan gaan kijken door deze ervaring?</p> <ul style="list-style-type: none"><li>- Heeft het gesprek invloed gehad op wat je belangrijk vindt?</li><li>- Heeft het gesprek geleid tot nieuwe perspectieven die je gedrag hebben veranderd?</li><li>- Hoe heeft het gesprek je veranderd?</li></ul>	

**Appendix G****Interview Format B (Experience Awareness Intervention)**

Hoofdvragen	Follow-up vragen
Wat vond je van de netwerkanalyse tijdens het eerste interview?	Heeft dit invloed (gehad) op jouw ideeën over of perspectief op netwerklere? Waarom wel/niet?
Wat vond je van het schrijven van de waardecreatie verhalen?	Heeft dit invloed (gehad) op jouw ideeën over of perspectief op netwerklere? Waarom wel/niet?

## **Appendix H**

### **Written Information Research Project**

*This is a translation from the Dutch original which was given to the participants.*

This research project is aimed at new teacher educators and concerns the use of your professional network. Participation in this project entails the following activities: 1) participating in an interview about your ideas about networked learning, during which we will also analyse your own network (approx. 90 min); 2) writing a weekly report on valuable conversations for the duration of six weeks (about 5 min a week); 3) participating in a second interview about your ideas about networked learning (approx. 45 min). All data will be handled with the utmost care and reported on anonymously. You have the right to withdraw from the project at all times, in which case your data will be deleted. Your participation would be highly appreciated, as this research project aims to improve the support offered to new teacher educators.

### Appendix I

#### Clarification Axial Codes

Thema	Code	Toelichting
Social beliefs	Right reasons for relationship cultivation	Participanten zeggen hier iets over waarom zij relaties cultiveren of wat volgens hen een goede (of slechte) reden daarvoor is, expliciet of impliciet. Deze code heeft betrekking op sociale omgangsnormen en -waarden die volgens participanten in acht genomen moeten worden.
Cultural beliefs	Appropriate contacts	Participanten zeggen hier iets over aan wie zij vragen mogen stellen, wie volgens hen fijne contactpersonen zijn om vragen aan te stellen, en/of wie ze minder snel zouden benaderen, expliciet of impliciet.
	Appropriate content	Participanten bespreken hun overwegingen voor het wel of niet delen van bepaalde vragen, expliciet of impliciet. Ze bespreken welke vragen ze volgens hen wel mogen/kunnen stellen en welke niet.
Beliefs about effective networked learning	Importance affective relationships	Participanten benoemen het belang van een goede affectieve relatie voor effectief netwerk leren, expliciet of impliciet.
	Attitude	Participanten benoemen het belang of de invloed van een goede/ open/ actieve houding voor effectief netwerklernen, expliciet of impliciet.
	Right contacts for effective networked learning	Participanten benoemen welke contacten voor hen nuttig zijn of onderschrijven het belang van het hebben van de 'juiste' contacten, expliciet of impliciet. Voorbeelden aspecten van 'juiste' contacten: a) praktische factoren, b) expertise, c) affectieve factoren.
Means for networked learning	Means: networked learning skills	Participanten beschrijven het belang, de invloed of het bestaan van netwerk (leer)vaardigheden, expliciet of impliciet.
	Means: awareness expertise and ambition	Participanten beschrijven het belang of de invloed van kennis van de expertise van anderen op hun netwerklernen, expliciet of impliciet.

Thema	Code	Toelichting
Motive for networked learning	Motive	Participanten benoemen dat zij (met name) netwerklernen met een bepaald motief/doel voor ogen, expliciet of impliciet. Voorbeelden van motieven: a) professional performance, b) onboarding, c) innovation, d) ambition, e) perceived competence, f) relationships.
Opportunity for networked learning	Opportunity: time and workload	Participanten beschrijven de invloed van tijd en werkdruk op hun netwerklernen, expliciet of impliciet.
	Opportunity: physical proximity	Participanten beschrijven de invloed van fysieke nabijheid op hun keuzes m.b.t. de collega's die ze benaderen, expliciet of impliciet.

## Appendix J

### Statements Selective Codes and Main Results

T.b.v. *Member checking* (Creswell, 2012)

Beste [naam participant],

In je eerste jaar bij [organisatie] heb je deelgenomen aan een onderzoek naar het netwerk leren van nieuwe lerarenopleiders. Binnenkort wordt dit onderzoek afgerond. Om je vast inzicht te geven van de resultaten en ter bevestiging van de validiteit hiervan zijn de resultaten vertaald naar 17 statements. Geef per statement aan of je denkt dat dit voor jou tijdens je eerste jaar (enigszins) herkenbaar was.

1. Ik denk na over wie ik wel en niet benader binnen mijn netwerk (bijv. andere nieuwe collega's of managers).
2. Ik selecteer welke vragen ik wel en niet (aan wie) stel (bijv. om 'domme' vragen te vermijden).
3. Het integratieproces als nieuwe lerarenopleider heeft een stimulerende werking op netwerklernen, omdat ik mijn collega's nodig heb om de nodige informatie te krijgen m.b.t. het functioneren als lerarenopleider.
4. Het integratieproces als nieuwe lerarenopleider heeft een beperkende werking op netwerklernen, omdat ik nog niet zoveel collega's ken en niet altijd weet wie ik waarvoor kan benaderen.
5. Het integratieproces als nieuwe lerarenopleider heeft een beperkende werking op netwerklernen, omdat ik het te druk heb met alle nieuwe informatie en de nieuwe contacten die ik al heb opgedaan om actief breder te netwerklernen.
6. Het integratieproces als nieuwe lerarenopleider heeft een beperkende werking op netwerklernen, omdat ik mijzelf nog moet bewijzen in mijn nieuwe functie en ik geen onnodige, 'domme' of verkeerde vragen wil stellen.
7. Ik vind het sociaal acceptabel om te netwerken wanneer ik iets wil verbeteren in het onderwijs.
8. Ik vind het sociaal acceptabel om te netwerken wanneer ik oprechte interesse heb in de personen met wie ik dat doe.
9. Ik vind het **minder/niet** sociaal acceptabel om te netwerken zonder concreet doel (zoals het beantwoorden van een vraag), maar met het oog op potentiële waarde van een contactpersoon in de toekomst.
10. Ik vind het **minder/niet** sociaal acceptabel om te netwerken zonder interesse in de persoon met wie ik dat doe.

11. Wederkerigheid (een balans tussen geven en ontvangen van bijv. expertise, invloed of affectieve waarde) is van belang voor een positieve netwerkrelatie.
12. Wederkerigheid (een balans tussen geven en ontvangen van bijv. expertise, invloed of affectieve waarde) is extra belangrijk bij affectief zwakkere relaties.
13. Als ik vraagstukken in mijn netwerk bespreek dan vind ik het prettig als collega's mijn vraagstukken herkennen, dan ligt het niet alleen aan mij.
14. Als ik vraagstukken in mijn netwerk bespreek dan vind ik het prettig dit te doen met collega's met wie ik een wat sterkere affectieve relatie heb, omdat zij mij minder snel zullen be-/veroordelen om de vragen die ik stel.
15. Mijn keuzes m.b.t. netwerklere worden beïnvloed door mijn ideeën over wat sociaal acceptabel netwerklere is (bijv. met welk doel mag ik mijn netwerk benaderen?).
16. Mijn keuzes m.b.t. netwerklere worden beïnvloed door mijn ideeën over wat binnen de (organisatie)cultuur acceptabel netwerklere is (bijv. wie kan ik waarvoor benaderen).
17. Mijn keuzes m.b.t. netwerklere worden beïnvloed door mijn wens afwijzing of veroordeling, bijv. op basis van een gebrek aan expertise, te vermijden.